

16. OBSERVATIONS ON THE RED EARTH BOA OR
RUSSELL'S EARTH-SNAKE [*ERYX CONICUS* (SCHNEIDER)]

I had opportunities to observe, in nature and in captivity, some of the habits of the Red Earth Boa, or Russell's Earth-snake [*Eryx conicus* (Schneider)], known in Malayalam as *mannuli* (burrower) with reference to its burrowing mode of life. It is also called *mannutheeni* (sand-eater) because of its reputed sand-eating habit, a belief which has no factual basis.

E. conicus spends the whole day buried in small crevices or holes in the ground. I once collected a specimen from a burrow nearly 1½ feet (45 cm.) below the surface in loose sandy soil. It is nocturnal in its habits and moves out at night in search of prey consisting of mice, field rats, toads, small lizards, and birds, which it kills by constriction. It cannot endure long periods of starvation.

The dark brown patches on the back of *E. conicus* are bordered by luminous white margins, which would obviously be more discernible to other nocturnal animals than the blotches. This probably helps it in securing its prey.

The visual power of *E. conicus* is as good as that of any other snake, and when underground and unable to see in the darkness it can perceive even the smallest sound vibrations made on the ground. It will remain buried for hours on end in captivity with only the snout and the eyes exposed, retreating into the sand and burying itself completely at the slightest disturbance. It can remain underground for nearly an hour at a stretch. Unlike the common land snakes, *E. conicus* does not protrude and retract its tongue repeatedly; it does so only when it is subjected to considerable physical irritation. This indicates that the tongue is not used much in the way of a sense organ.

E. conicus shuns bright sunlight, and recedes into the dark corner of a partially illuminated cage. I have, however, seen it occasionally basking in dim sunlight. Burrowing in sand is usually a matter of a few minutes, and in consequence *E. conicus* is more at home in sandy soil. It is nevertheless not quite rare elsewhere. While burrowing the body is thrown into lateral folds; the burrowing is initiated by the head, and is doubtless facilitated by the scooping action of the lateral folds and the slightly prehensile tail.

In captivity *E. conicus* is gentle and well-disposed, becoming active only when artificially irritated or at night or during the capture of prey. The body is ordinarily cylindrical. Under provocation it assumes the threat posture and the body becomes dilated, turgid,

and plano-convex in shape; one row of outer scales on each side is pressed on the ground, distending the costals and making the lateral spots stand out more vividly. With the lateral spots completing the gaps in the picture the resemblance to the Russell's Viper [*Vipera russellii russellii* (Shaw)] becomes very strong, earning it the name of *payyanamandali* (from *payyana*, the vernacular name of a plant the leaf-scars of which bear a peculiar resemblance to the spots of *E. conicus*, and *mandali*, viper). The flattened lower surface helps it to get a better grip of the ground. One specimen, which remained with me for some time in captivity, used to press its flanks to the ground along the whole length of its body. The mechanism involved in this dilation of the body is under investigation. Another threat posture takes the form of throwing the body suddenly into coils under which it hides its head.

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17. MATING BEHAVIOUR OF THE BEETLE *HYDROPHILUS OLIVACEUS* FABRICIUS

Hydrophilus olivaceus Fabricius belongs to the family Hydrophilidae, order Coleoptera. It is found in the local ponds and comes to light in large numbers. Some of these adults were collected and put in small water tanks and their mating behaviour was studied by the author in the laboratory. One pair was isolated in a glass tank. Externally there is not much difference between male and female beetles except that the males are generally smaller than females. The male rides over the female holding the elytra at the sides by its forelegs, mid- and hind-legs free and the mouth parts rubbing the groove between prothorax and mesothorax. During mating, the female swims while the male keeps on riding over her. The union is effected by the full extension of the aedeagus by the male which touches the female genitals. The female does not protrude its genitals as in some orthopteran insects and makes no copulatory movements. The male succeeds in inserting the aedeagus in the female genitals only after many unsuccessful attempts. At the time of complete union of the two genital armatures, the female does not move but remains stationary. The full union hardly lasts even forty seconds. After mating the male comes up at the surface to take